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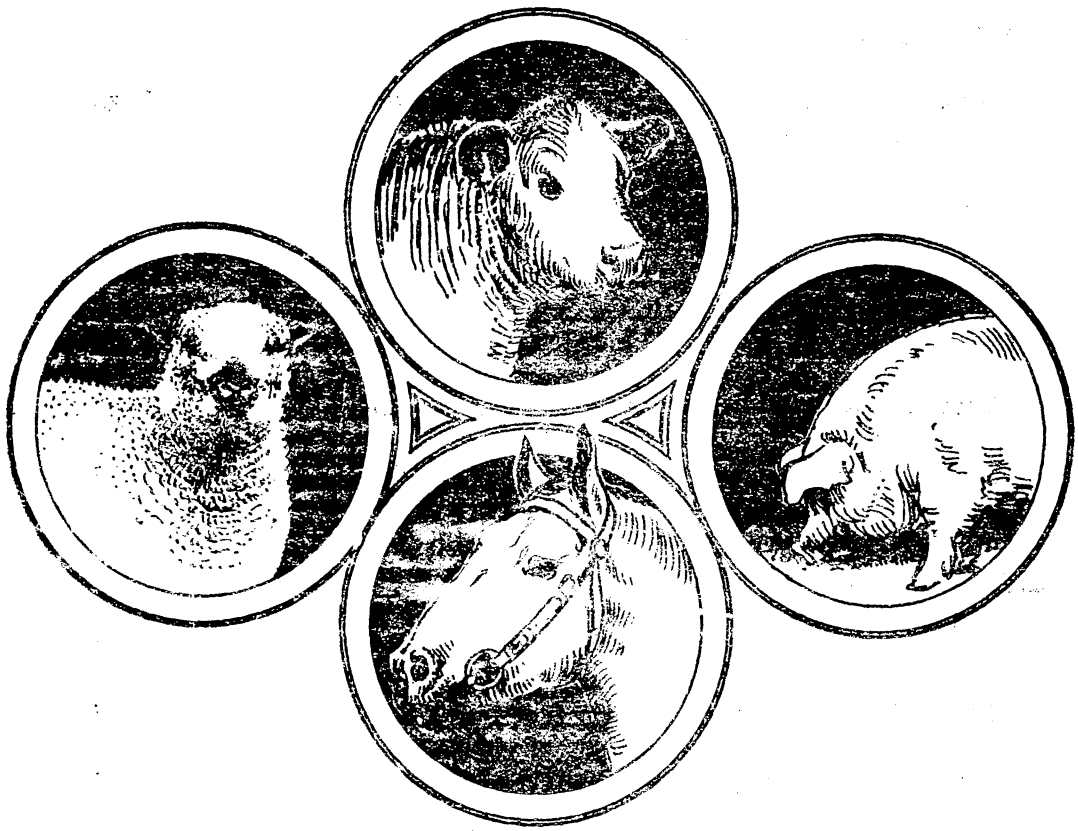
# The EXTENSION ANIMAL HUSBANDMAN



UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
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UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C.

# THE EXTENSION ANIMAL HUSBANDMAN

Issued quarterly by the Bureau of Animal Industry and the Office of Cooperative Extension Work, Cooperating, C. D. Lowe, Senior Extension Animal Husbandman.

Serial Number 25 — — March, 1932

Special Articles in this Issue:

Animal Husbandry Extension Work in Iowa, by Rex Beresford ..... Page 1

Developing Practical Livestock Club Work, by L. H. Rochford ..... 7

The Kansas Five-Year Beef Production Program, by J. J. Moxley ..... 13

Some Swine-Feeding Notes, by E. Z. Russell ..... 15

Observations on Wool-Moisture Variation, by J.I.Hardy 18

Also:

What's New in the States ..... 5

Drive-In Receipts of Livestock, 1931 ..... 6

Posters Available ..... 9

Purebred-Ram Sales in Pennsylvania ..... 10

Meat Interest Grows ..... 11

New Mexico Looks Ahead ..... 17

Recent Publications ..... 19

# ANIMAL HUSBANDRY EXTENSION WORK IN IOWA

By Rex Beresford,
Extension Animal Husbandman

- - -

Work in animal husbandry, as with all other lines of extension work in this State, is conducted mainly through the county agents and the county farm bureaus which we have in each of our 99 counties. We attempt so to organize and project our work that it may be easily explained to the county agents and to the board of directors of the farm bureaus in each county, for their consideration. We may go so far as to make special recommendations for the adoption of a certain line of work in certain counties, but the final acceptance of a project is up to the agent and his board. Explanation of a project, other than we can give in written form, and the selling of a project to a county, are largely handled through the district extension agents along with similar project material for all other lines of work. Where we desire particularly to put on a piece of work in some county, we may use a little extra effort to sell to the agents or influential men in the community but that is as far as we go in that direction. In other words, our animal-husbandry projects are offered by the district agents to every county in the State. When the counties have made their selection of projects, our real job begins.

Our staff at present is composed of three men, Quaife, McDonald, and myself. We offer six projects or programs designed to meet, so far as we are able to meet them, the needs of the State along animal-husbandry production lines.

A word as to our livestock situation may help to explain the reason for our program. From 85 to 87 per cent of the total farm income in Iowa is from livestock and from livestock products, including dairy. From 38 to 40 cents out of the average farm dollar is derived from pork production, which of course puts the hogs well out in front from an economic standpoint. From 15 to 20 per cent comes from beef cattle and less than 3 per cent from sheep. Logically enough, we spend more time on the swine project than on any other.

## Swine Production

Our present swine project has been a gradual development. We began a good many years ago with such simple factors as demonstrations in the selection of brood sows from the standpoint of type and conformation, and lectures or talks on feeding and

management. Together with the extension veterinarian, we have developed the swine-sanitation program largely through demonstrations. These programs have been put on in every county with one or more cooperators in each township with quite general adoption. As farmers have become better informed as to sanitation and management methods and more proficient in selection of breeding stock, we have gradually worked into the idea of earmarking litters, keeping records, comparing litters at weaning time or later, and building up herds on the production basis. During the last two years we have gone so far as to conduct county cooperative feeding demonstrations or tests comparing herd samples from 8 to 10 different herds in a county in their ability to respond to feed, and in quality as shown by slaughter and cut-out tests at the close of the feeding tests.

Out of this work has grown what we consider at present the most important phase of our swine project - the county swine-improvement plan in which a group of swine producers agree to follow a certain procedure of selection, record keeping, and testing with the idea of building up on each man's farm an efficient producing herd. The herds included in these records are also used as demonstration herds in spreading the ideas of swine improvement to other farmers in the county.

The so-called "Pig Crop Contest" which we have conducted for the past five years has been another means of focusing attention on the breeding, feeding, sanitation, and management methods of the more proficient swine producers. This contest has given us production records on over 5,000 hogs during the five years and has demonstrated the value of the swine extension program to thousands of farmers who have attended one or more of the demonstration meetings on the competing farms or read of the results of the contest. Men who, from herds of 10 to 25 brood sows, produce litters of from 1,750 to 2,300 pounds average weight at 6 months average age have not overlooked many of the essentials of successful swine production and furnish effective demonstration material.

Without attempting to estimate what part the swine extension program may have had in it, we have observed a marked improvement in swine production during the past 10 years. Records of our State department of agriculture show an average litter of 4 1/2 pigs per sow saved to weaning time in 1922. In 1931 the average was 6 pigs per litter. Fortunately, Iowa produced almost exactly the same number of swine in each of these years,-- approximately 12 1/4 million head. This means that the 1931 pig crop was produced

by about a half million fewer sows than in 1922. Market weight is now reached at from six weeks to two months earlier age and with a reduction of probably 20 per cent in quantity of feed per pound of pork produced. Fall pigs now represent from 30 to 35 per cent of the total yearly crop as compared with 17 per cent 10 years ago.

## Beef-Cattle Production

The beef-cattle program includes the car-lot baby-beef production contest, feeder-cattle selection and feed-lot demonstrations, and cattle feeders' tours. In addition, this year we are attempting to begin some demonstrations in the creep feeding of calves, or, as it is sometimes called, the production of "super baby beef." We have been especially impressed with the value of the cattle feeders' tours where adequate records on the cattle are available and the tours have been properly organized. Our car-lot contest entries have been used as demonstration farms.

## Sheep Work

Commercial lamb feeding is, economically speaking, the most important phase of the sheep business in Iowa. Most of the time spent on the sheep project during the past year was in connection with a series of county-wide lamb feeders' conferences conducted in cooperation with the Chicago, Milwaukee, St. Paul, and Pacific Railway Co., and in cooperation with the Iowa Sheep and Wool Growers' Association in connection with the State wool-marketing program, and county-wide sheep and wool-improvement work. Some work has been done in lamb grading and native market-lamb improvement.

## Meats

Our meats program, handled by Professor McDonald, includes farm demonstrations in butchering; meat cutting, curing and canning, city meat demonstrations on quality and meat selection for housewives, meat cutting and meat merchandising demonstrations for retailers, and swine "cut-out" demonstrations in connection with regular butchering work and with the feeding-test pigs. This winter a special farm butchering week was sponsored which resulted in calls for 33,000 copies of a meat circular. Fully half of Professor McDonald's time during the past year has been spent in meats work of various sorts.

## Horses

Work with horses has consisted almost altogether of hitch

demonstrations, colt-breaking demonstrations, and horse-pulling contests. Most of this work has been handled by Harry Linn, field man for the Iowa Horse and Mule Breeders' Association.

## Junior Livestock Clubs

Organization and promotion of junior livestock clubs are handled in this State by the club department, but assistance in planning the work and service to the junior clubs are a part of our program. We conduct club leaders' training schools and judging contests, help with junior club shows, judge exhibits, and help with club tours and short courses.

## Feeding Schools

Almost a third of our time in the field is spent in conducting livestock-feeding schools of a duration from half a day to one day in a community, and from two to five days in a county. These seem to be of perennial interest. We are supplementing them as rapidly as possible with actual demonstrations, and make use of the local feeding tests and car-lot and pig crop contest entries to back up experiment-station results.

## Publicity

Each year we make an increasing use of the radio and press in promoting our projects and in disseminating subject matter. We get out a monthly mimeographed publication consisting of four or five short articles suitable for the use of the agents and Smith-Hughes instructors. This serves the double duty of ready-made publicity for them, and keeps them in touch with new material and recommendations. Material is furnished each week to the college clipping sheet going to the weekly papers, and twice a week to the dailies of the State. We are responsible for a once-a-week 10-minute radio program which is used by 11 stations in the State, and furnish one to three programs a month over our college station. The publicity and radio material is mostly designed to fit in with our regular projects and is in our opinion very useful in helping put over the program.

Fair and show judging and exhibits at fairs take a considerable amount of time and are often of doubtful value in my opinion, but are duties that can not be escaped, and in many instances help with the program.

----------EAH----------

# WHAT'S NEW IN THE STATES

## Colorado

L. H. Rochford has resigned to accept the position of range livestock specialist in California. He will take up his new duties about April 1. A. C. Allen, formerly assistant to Mr. Rochford, but more recently assistant State club leader, will fill the vacancy created by the resignation of Mr. Rochford.

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## Idaho

E. F. Rinehart, livestock fieldman, officiated as judge of the Rambouillet sheep at the Ogden, Utah, Livestock Show which was held in January.

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## Maryland

K. A. Clark, animal-husbandry specialist, was a speaker on the program of the Pennsylvania Sheepmen's Association at Harrisburg, Pa., on January 19, and also at a meeting of the Connecticut Sheep Breeders' Association at Hartford, Conn., on January 28.

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## Montana

D. E. Richards, livestock specialist, resigned his position effective on February 20 to accept the superintendency of the Eastern Oregon Livestock Experiment Station at Union, Oreg.

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## Texas

According to a survey made by the Dallas News, 25 per cent more cattle are on feed in 180 counties of the State than last year. Returns from these counties show 153,325 calves, 133,685 steers, 226,700 hogs, and 272,250 sheep to be on feed.

Much of this increase in feeding is in the cotton-raising areas. Practically all blackland counties of northern, central, and southern Texas are showing a large increase in cattle, hog, and lamb feeding. Northwestern Texas leads in total number of livestock on feed. Lamb County is probably leading with 10,000 calves, 3,000 steers, 20,000 lambs, and 5,000 hogs. Nueces County has 6,000 calves and 3,000 steers on feed. Val Verde County has 60,000 lambs on feed.

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West Virginia

The West Virginia 4-H club team won first place in the noncollegiate livestock judging contest held in connection with the 1931 International Live Stock Exposition at Chicago. Virginia's team was a close second, with Nebraska, Illinois, and Oklahoma next in order.

---EAH---

## "DRIVE-IN" RECEIPTS OF LIVESTOCK, 1931

The following table of the nonrail deliveries of livestock in 1931 to 16 of the principal markets, shows to what extent the truck has become a factor in the transportation of this commodity.

| City | No. head | Percentage of total |
|---|---|---|
| Omaha | 3,180,198 | 36.45 |
| Sioux City | 2,947,595 | 61.72 |
| St. Paul | 2,243,439 | 35.30 |
| Indianapolis | 1,905,617 | 83.13 |
| E. St. Louis | 1,797,524 | 37.43 |
| St. Joseph | 1,633,905 | 48.02 |
| Kansas City | 1,277,842 | 23.07 |
| Chicago | 1,105,084 | 7.24 |
| Cincinnati | 857,962 | 45.57 |
| Milwaukee | 494,794 | 35.49 |
| Fort Worth | 457,822 | 20.52 |
| Wichita | 457,746 | 51.15 |
| Oklahoma City | 434,101 | 66.87 |
| Denver | 420,584 | 11.68 |
| Louisville | 353,613 | 58.82 |
| Portland | 216,597 | 35.20 |

Of the total receipts of the cattle at the above markets, 24.03 per cent were classed as "drive-ins." Of the calves, 44.91 per cent; of the hogs, 42.98 per cent; and of the sheep, 17.01 per cent.

More detailed information on this subject is available in mimeographed form from the Livestock, Meats, and Wool Division, U. S. Bureau of Agricultural Economics, Washington, D. C.

---EAH---

# DEVELOPING PRACTICAL LIVESTOCK CLUB WORK

By L. H. Rochford,
Extension Animal Husbandman in Colorado.

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In Colorado, livestock club work has always held an important place in the agricultural extension program. In many counties the livestock projects have been the most popular of all the 4-H club activities despite the fact that such projects require greater investment to the club member than any other phase of club work.

Broadly speaking, our livestock club work has progressed satisfactorily. The past 10 years' experience, however, has taught us the necessity of making numerous definite changes to meet ever changing problems.

We in Colorado have always been of the opinion that purebred animals are desirable for breeding club projects and have advised accordingly. We now believe that this advice in many cases was emphasized to the extent that club members selected inferior purebred animals in preference to excellent grades. Furthermore, such overemphasis on purebreds at times built up in the minds of many club members and their parents the belief that the chief goal of the breeding club projects was to establish club members as future breeders of purebred livestock. Where the idea of producing seed stock was prevalent, there was often the tendency to save inferior animals for breeding purposes and to offer them for sale in the purebred market. The returns from such animals were usually disappointing. Even if satisfactory, the animals were certainly not creditable walking advertisements for 4-H club work.

Although it is sound policy to teach all livestock club members the value of good livestock, we have come to a greater realization of the fact that it is certainly impractical to encourage even half the members to become breeders of purebreds. We now very carefully explain to them that the chief aim of the breeding club project is to learn the fundamental principles of raising good livestock. We point out the essential differences between the purebred business and the business of producing animals for slaughter.

Another difficult problem in livestock club work has been

to check the tendency for placing too much emphasis on show-ring performance. The showing of club livestock at fairs and stock shows is indeed a desirable feature of club work and should be heartily endorsed. However, to use the show-ring performance as a measuring stick of success with a club project is attaching too much importance to this feature. It tends to defeat the real purpose of club work. In many instances competition for show-ring honors has become so keen as to bring up the question as to whether we were training club members to be successful stockmen or professional showmen.

We have observed some very unfavorable reactions toward club work where show-ring winnings have been regarded as of first importance. The following hypothetical case will explain what is meant. A club member's parents who are financially able to do so buy a club animal at an exorbitant price. The club member becomes enthusiastic and stakes everything on his chances of winning the purple ribbon. If the animal wins, the particular club member is jubilant. The animal is sold for a ridiculous price, the club member receives great publicity, and the parents are great boosters for club work.

But what about the other members whose animals did not win and who may have really done a better job of club work than did the owner of the champion? Their club work was practical. They selected type animals at a fair price, and fed well-balanced, economical rations. Their animals put on big gains at low cost. But they did not win in the show ring. Perhaps the home-town paper that gave such wide publicity to the great work of the winner gave this group no recognition for earnest effort. Those of this group who are endowed with plenty of common sense and have encouraging parents go right ahead with another successful project. Those who are less fortunate become discouraged. A very enthusiastic community interest grows cold and the people critical. Club work suffers a relapse until the incident is forgotten and a new set of youngsters are able to attract community interest once more.

The matter of appraising the importance of show-ring winnings has been the most difficult of all club problems to meet. We believe, however, that progress is being made. The State club leader and county agents all realize that club work must be practical if it is to enjoy steady growth. They strongly urge all club members to begin their livestock projects with good-quality animals of the right type. They encourage all members to exhibit animals at the fair, but warn them not to stake everything on show-ring winnings, or to be discouraged if they do not

win. Newspapers are asked to give recognition to all club members who have done their job well. Fair boards are urged to give greater distribution of premiums by placing less money on the grand champion and dividing their funds into more prizes.

Then there is the problem of keeping the active interest of club members. In Colorado we have come to the conclusion that our club projects of the past did not grow with the club members. That is, we were sometimes expecting members 16 to 18 years of age to be interested in the same project as members 10 to 12 years old. Of course, we lost many as they advanced in age, experience, and interest. For example, it is not natural to expect that a boy will continue to be enthusiastic, year after year, over a project that involves the feeding of one or two steers. An experienced club member should be urged to expand his operations as fast as his ability and finances will permit.

Another change in our club work has been to bring about a closer association between livestock and crop projects. For example, corn club members are encouraged to carry a livestock project. Instead of urging all corn club members to become seed growers, most of them are encouraged to produce maximum yields of corn to be marketed through their own club livestock.

In a few counties farm science clubs are being formed for former club members who have passed the age for club work. Such a club, organized several years ago in El Paso County, has been most successful. Here real agricultural leadership is being developed by a group the members of which understand club work and the goal of agricultural extension.

----------EAH----------

## POSTERS AVAILABLE

A new supply of the following posters has recently been made available. They may be obtained from the Bureau of Animal Industry, U.S. Department of Agriculture, Washington, D. C.

Do You Know Good Beef?
Well-bred Cattle Yield Most Meat
Ten Points for Better Feeding
48 Per Cent More Money from Purebreds
Mold your Animals
Why Purebreds Excel
Use Better Sires for More Lamb, Wool and Mutton
Purebred Sires and Herd Improvement

----------EAH----------

## PUREBRED-RAM SALES IN PENNSYLVANIA

Each year more of our farm-flock owners are interested in obtaining the service of a good purebred ram. Many times the farmer is unable to purchase the type of ram he wants. An effort was made eight years ago by the livestock extension service of the Pennsylvania State College to meet this demand for good rams by organizing ram associations. This was done by combining the flock owners into groups of three, with the idea of exchanging rams every two years. At one time there were 70 of these groups in the State. During the last six years, when prices were good, the interest became so great that purebred-ram sales were organized to satisfy more fully the call for rams.

The purebred-ram sale has gradually replaced the ram association as a means of exchanging rams. In the last six years, 764 purebred rams have been distributed through 24 sales. The average price received by the consignors was $28.40 per head.

These sales are conducted by the county wool growers' associations. A committee made up of three breeders and the sheep extension specialist selects the rams for each sale. Each man who purchases a young ram has the right to return him to a later sale after using him in his own flock provided he has been properly developed and passes inspection. This enables a grower to obtain the services of a good ram as cheaply as those of a grade.

The ram sales have some decided advantages in distributing purebred rams for use on grade flocks. They are listed as follows:

First, the sale offers an opportunity to obtain a good ram at a moderate price.

Second, it offers an opportunity to resell any ram previously purchased through one of these sales.

Third, the sale has a tendency to standardize the type and age of the lamb crop in the community.

Fourth, it gives the county organization a very close tie-up with the sheep-improvement program.

Fifth, the sale stimulates a desire on the part of many farmers to obtain purebred ewes.

Pennsylvania sheepmen feel that the purebred-ram sale has become a permanent institution and, so far as their conditions are concerned, is a very satisfactory method of distributing good rams. --W. B. Connell

----------EAH----------

## MEAT INTEREST GROWS

During the annual conference of State extension workers at Laramie, Wyo., in January, K. F. Warner of the United States Department of Agriculture conducted demonstrations in which methods of killing, cutting, and judging lamb were presented. Through arrangements made by Extension Director Bowman and Livestock Specialist Neale, the county agents in attendance were given an opportunity to obtain actual practice in the methods demonstrated so as to be qualified to put on similar demonstrations in their local communities. How well this worked out is indicated by the following excerpts from a letter written to Mr. Warner by D. A. Jay, county agent at Buffalo, Wyo. The demonstration described was staged at Douglas, Wyo., where Arthur Hyde is the county agent.

"'Art' Hyde had 20 farmers each bring in a fat lamb on Thursday morning. The lambs were weighed and put in pens which were numbered. Immediately after noon when the crowd had gathered a contest in guessing the weights of the lambs was put on. Everybody got a great 'kick' out of this and much interest was aroused. We then divided the lambs into three groups, attempting to place them in accordance with the probable value of their carcasses. 'Art' arranged for a joker in each class which provided extra opportunity for differences of opinion and kept up discussion.

"Following this judging each farmer took his own lamb and formed a circle. In the center of this circle we had another lamb and the assistance of a local butcher who did the actual slaughtering under my instructions. This left both Mr. Hyde and myself free to supervise what was going on around the ring, as the idea was for each farmer to follow the operations in the center of the ring on his own lamb. The method of sticking and bleeding was first demonstrated and then followed by each of the farmers. Next, all watched the removal of the pelt and it was surprising to see how many farmers did not know how to 'fist off' a pelt. After each had removed the pelt from his lamb we showed him the method of dressing the carcass, after which all lambs were hung up and left to cool until the following morning. Five lambs of the 20 were really well dressed, while the others showed varying degrees of skill at a new job.

"The next day the carcasses were all taken down, weighed, and their dressing percentages figured. The carcasses were then again hung in the order of the positions the live animals were given in the judging contest. This created as much interest as any phase of the entire demonstration. The discussion which had taken place the previous day during the time the lambs were being judged served to remind the individual farmers of the 'on-foot' appearance of the different carcasses, as a result of which many practical lessons were put across. Fortunately, I had done a pretty good job of judging (or guessing) the day before and I did not hesitate to point out the strong features of the carcasses as they hung on the hooks and relate them to the living animal.

"We then took up the score cards which you had us use at Laramie and had the men score the carcasses. This served to further familiarize them with the points that characterize the desirable in lamb carcasses.

"That afternoon we held a cutting demonstration in which each demonstrator cut up his own lamb, while 'Art' and I alternated on the key demonstration lamb in the center of the room. In passing, I might say that I have become quite proficient in making the mock duck.

"During the noon hour, Miss Neubauer, the home demonstration agent, had a wonderful demonstration in which she used prepared and ready-to-serve cuts of lamb. As she discussed each cut, a tray was handed her from a near-by stove. On these the cuts made a very attractive appearance as various decorations and frills were used on them. As these appetizing meat dishes were placed before the crowd at about 11:30 a.m. it had the proper psychological effect (physiological too, I imagine. -Editor).

"A good many other features were dovetailed into the two days' program but everything centered around the fat lamb. Taken as a whole I think this event was as successful as anything of the kind I have ever seen. Mr. Hyde deserves much credit for his efficient planning of the entire program."

----------EAH----------

Better Bulls, Bucks and Boars
Bring Bigger Bank Balances.
--Slogan used on letterhead
by "Dick" Richards of Montana.

----------EAH----------

# THE KANSAS FIVE-YEAR BEEF PRODUCTION PROGRAM

By J. J. Moxley,
Animal Husbandry Specialist

- - -

The Kansas Five-Year Beef Production Program is now in its fourth year. With three years behind it and two more ahead, some ideas may be expressed as to its past and future.

The program was conceived with the idea of making the beef production of Kansas more stable, more conservative, and more profitable, and uses as its basis the good beef-cow herd to utilize Kansas grasses and roughages and the calves to market the grain.

To handle these herds efficiently, a definite system of management designated as the beef-herd management subproject is being advocated. Correlated with this are six other related subprojects: marketing, control of cattle disease, control of cattle insects, production of suitable feed crops, farm accounts and equipment. The program was begun in 22 counties and is now being carried in 38 of the leading beef-cattle counties of the State. The farms and ranches cooperating in this work range in size from 160 acres to a section, with some considerably larger. Because they produce grass, roughage, and grain, these farms and ranches are in most cases able to produce, finish, and market their own cattle.

The phases of the beef-herd management subproject emphasized are good-type breeding stock, wintering the breeding herd well, the production of early calves, and the creep feeding of the calves. The pahses of cattle-disease control which are being developed deal with Bang's disease, blackleg, and other common ailments. The control of cattle insects has dealt largely with the ox warble, screw worm, and biting fly. The extension beef-cattle marketing work has dealt largely with a study of the market trend and conditions particularly affecting the class of cattle produced in the beef-herd management work. The farm-account record work permits a study of the farm and the beef-cattle enterprise. The equipment information furnished deals with feed storage and the feed lot, and the crops phase is interrelated with the regular crops and soils program.

The first year's work was carried out by conducting district beef-cattle schools for leaders, beef-herd management demonstrations, and district summary meetings for some of the demonstrations.

The second year's work was developed through county schools, demonstrations, and county demonstration meetings. The third year's work was handled by county and community schools, demonstrations, a beef-cattle demonstration train, and tours of the demonstrations. The fourth year's work now in progress is being developed through county and community schools, demonstrations, tours and special field days, correlating the beef-herd management work with the other phases in the program. The fifth year's work awaits development, but an attempt will be made to climax all phases of the program.

Since the most effective means for getting action in all the subprojects has been good demonstrations, with reliable records, as a source of local information, these have been stressed. To refer specifically to the management subproject, which has been handled as above indicated, the results at the close of 1931 show that purebred bulls increased from 70 to 79 per cent during 1930 and 1931; that adequate winter feeding (a good roughage plus a protein feed) increased from 57 to 63 per cent; that early calving (March or earlier) increased from 32 to 36 per cent; and that during 1929, 1930 and 1931, creep feeding increased from 0 to 16 per cent in the major beef counties.

During the development of this beef-herd management work, the demonstrations have increased in number to a total of 333 in 1931 with 18,800 calves creep fed. These calves returned approximately $10.10 each more than the noncreep-fed calves. The kind of information obtained in these demonstrations may be indicated by citing the record of Bruce Saunders of Holton, winner of the 1931 Kansas Beef Production Contest, which is as follows: Calf Record: Breed, Hereford; number of calves, 25; average birth date, February 1; date sold, November 16; average age, 288 days; final market weight, 718 pounds; daily gain from 80 pounds birth weight, 228 pounds; dressing percentage, 60.6 per cent; selling price, $11 per hundredweight; total feed, 21 bushels corn, 50 pounds protein supplement, 200 pounds hay; feed cost, $11 per hundredweight; carcass grade, Choice. Cow Record: Winter feed (pasture, hay, straw) cost, $18.50; summer pasture value, $7.50; overhead taxes, interest on investment, depreciation, bull service, etc.), $7.50; total annual cost of keeping cow to produce calf, $33.50.

With these demonstrations as a basis for the yearly work, special features are each year inserted into the program to stimulate interest and spread influence. The beef production contest mentioned has been used advantageously in this respect.

During 1931 the Santa Fe Beef Festival Train was run as a

special feature. The entire program of this train was built around the beef herd management work and the creep feeding of calves. In an itinerary reaching 34 of the leading beef counties of the State, making 3 stops daily, and a total of 34 stops, the attendance was 109,135. This was an average of more than 3,200 persons per stop.

Though it is early to determine results of the beef-production program since the drought of the past two years has slowed up some of its phases, the 1931 figures look quite encouraging.

----------EAH----------

## SOME SWINE-FEEDING NOTES

By E. Z. Russell,
Senior Animal Husbandman,
U. S. Bureau of Animal Industry

- - -

Some folks seem to be under the impression that the hogs which make the most rapid gains also make the most economical gains. That such is not always the case, however, is indicated by the results of some long-time feeding experiments of the U. S. Department of Agriculture. From these experiments it appears that rate of gain can not be taken as a reliable index of economy of gain.

This is clearly brought out in the following table, which summarizes the results of a 7-year experiment at one of our field stations, involving during that time a total of more than 500 hogs. The feeds used in this experiment were barley, tankage, and minerals on alfalfa pasture, except during the first two years when corn was fed instead of barley. The pigs were placed on feed soon after weaning and were self-fed, free choice to a weight of about 200 pounds.

Average Gains and Feed Consumed

| | - Lot A - | | | - Lot B - | | |
|---|---|---|---|---|---|---|
| Year | No. hogs | Average daily gain | Feed consumed per 100 lbs. gain | No. hogs | Average daily gain | Feed consumed per 100 lbs. gain |
| | | lbs. | lbs. | | lbs. | lbs. |
| 1925 | 15 | 1.56 | 393.34 | 15 | 1.25 | 403.07 |
| 1926 | 24 | 1.47 | 416.70 | 34 | 1.83 | 373.16 |
| 1927 | 20 | 1.13 | 360.38 | 40 | 1.00 | 313.74 |
| 1928 | 46 | 1.47 | 444.15 | 72 | 1.38 | 398.52 |
| 1929 | 27 | 1.44 | 415.28 | 53 | 1.42 | 394.33 |
| 1930 | 59 | 1.26 | 477.00 | 31 | 1.42 | 432.08 |
| 1931 | 63 | 1.49 | 386.73 | 36 | 1.47 | 379.83 |
| Average | | 1.40 | 423.64 | | 1.39 | 388.93 |

Total hogs..254.....281

Similar results were obtained in another series of experiments which extended over a period of five years and involved a total of more than 700 hogs.

## Feeding Method and Rate of Gain

The plan of feeding followed is very naturally a factor in cost of production. An experiment conducted over a period of three years at one of our stations, in which one group of pigs (Lot A) were full-fed on pasture from soon after weaning until they reached a market weight of approximately 200 pounds and another group (Lot B) were fed a limited ration a part of the time and full-fed the remainder, gave the following results:

| | Lot A<br>lbs. | Lot B<br>lbs. |
|---|---|---|
| Average daily gains | 1.60 | 0.79 |
| Feed required per 100 lbs. gain | 401. | 287. |

Corn, tankage, and minerals were the feeds used in this experiment which involved about 150 pigs.

In a similar experiment at another station, covering a 6 year period in which over 500 pigs were fed, the pigs in both groups were placed on feed soon after weaning and the experiment closed when the pigs in Lot A weighed approximately 200 pounds. Those in Lot B weighed approximately 100 pounds at that time. The pigs in Lot A were self-fed corn, tankage, and minerals, and those in Lot B had a limited ration of corn on alfalfa pasture. The results were as follows:

| | Lot A<br>lbs. | Lot B<br>lbs. |
|---|---|---|
| Average daily gains | 1.43 | 0.52 |
| Feed required per 100 lbs. gain | 342. | 288. |

Although a direct comparison can hardly be made in these last two experiments or between these and the first two reported, they show quite clearly that the plan of feeding is an important factor both in rate and economy of gain. They also indicate quite clearly that when a comparison of the rate and economy of gain is made the plan of feeding should be stated.

----------EAH----------

The multiplication of useful animals
is a common blessing to mankind.
Mount Vernon --George Washington
Dec. 4, 1788.

----------EAH----------

## NEW MEXICO LOOKS AHEAD

Because of the regulation of the U. S. Bureau of Animal Industry specifying that on and after July 1, 1934, feeder cattle can not be shipped into accredited tuberculosis-free areas except from other such areas, much interest is being taken in the modified accredited area plan which has been developed by the bureau. At the present time, New Mexico has two counties that have done practically all the testing necessary to become modified accredited areas, and two others that are beginning such testing. It is hoped that most of the principal beef-cattle producing counties will be classified as modified accredited areas before the regulation goes into effect.

At first glance this regulation might not seem of great economic importance to a range State like New Mexico. But if a county does not become accredited the practical effect of such a regulation would be to restrict its market for feeder calves at least 75 per cent. At the present time calves going into accredited areas must be held three days en route and the tuberculin test applied. This is a considerable expense and renders the cattle unattractive. It is believed that the value of these cattle will be materially increased when health certificates can be issued that will permit them to travel any place without restriction.

This work in New Mexico is being performed by the U. S. Bureau of Animal Industry, in cooperation with the Cattle Sanitary Board of the State. The Extension Service of the New Mexico College of Agriculture and Mechanic Arts is cooperating in making arrangements for the tests. It is believed that this is one of the most far-reaching pieces of work that has ever been attempted in the State.

To persons from the Eastern States where a county may comprise only a few townships, this effort may not seem like a very big job. But when it is realized that New Mexico has counties as large in area as all of the New England States combined, its magnitude will be more clearly comprehended.

In counties where stockmen want a modified accredited area, the State Extension Service is doing everything possible to assist them and the U. S. Bureau of Animal Industry is performing the necessary work. In counties where they do not want the work, no attempt to influence them is being made other than to point out carefully just what the situation will be when the new regulation goes into effect. --W. L. Black

----------EAH----------

# OBSERVATIONS ON WOOL-MOISTURE VARIATION

By J. I. Hardy,
Senior Animal Husbandman,
U. S. Bureau of Animal Industry.

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In order to gather information on changes in weights of bagged wool due to variation in moisture content, a series of weights were taken on the wool clip from the U. S. Sheep Experiment Station at Dubois, Idaho, for four years.

At shearing time each bag of wool was weighed just before it left the shearing shed. The bags were then stored on a platform in a shed, covered with canvas, and left there until fall. They were then weighed, loaded, and shipped to Boston, where a final weight was taken upon arrival.

The yearly shipments of fine wool for the four years totaled 11,410 pounds in 1926; 13,672 pounds in 1928; 13,192 pounds in 1929; 11,733 pounds in 1930. In the cross-bred shipments there were 10,948 pounds in 1926; 14,068 pounds in 1928; 15,668 pounds in 1929; and 12,550 pounds in 1930.

Some observations on weather conditions at Dubois during shearing time each year, during period of storage, and at shipping time were recorded in order to study their effect on moisture variation.

The 1926 shearing period was warm and dry with a maximum temperature of 89° F., and the summer period was unusually wet, there being over 5.5 inches of rainfall. The wool was shipped August 22, when the maximum temperature was 85° F. The 1928 shearing period was cool and windy with 0.3 inch of rainfall. The wool was shipped on October 2 when the weather was clear, cool, and calm. The 1929 shearing period was overcast, with snow on the second day. During the summer the temperature was slightly cooler than usual and there was slightly less moisture than in 1928. On November 15 and 16, when the wool was loaded, the weather was clear, cool, and calm. The 1930 shearing weather was cool with some rain on the first and third days of shearing, although the sheep were kept dry. Almost 6 inches of moisture fell during the summer of 1930. The wool was shipped September 30. Although that day was cool, cloudy, and calm, the month as a whole had been wet.

The accompanying table shows the percentage variations in the moisture content of the bags of wool from shearing until loading, and from loading to arrival at Boston, together with the total percentage of change for the entire period.

| Year | 1926 | | 1928 | | 1929 | | 1930 | |
|---|---|---|---|---|---|---|---|---|
| Kind of wool | Fine | X-Bred | Fine | X-Bred | Fine | X-Bred | Fine | X-Bred |
| Per cent moisture change from shearing to loading | -1.61 | -1.81 | -1.78 | -1.40 | -3.00 | -1.87 | -3.17 | -3.52 |
| Per cent moisture change from loading to Boston | +0.51 | +0.67 | +0.67 | +1.09 | -0.49 | -0.71 | -1.66 | -1.75 |
| Per cent moisture change from shearing to Boston | -1.10 | -1.13 | -1.11 | -1.40 | -3.49 | -2.58 | -4.83 | -5.27 |

Note - Weights on 1927 clip not taken.

During storage at Dubois the wool lost from about 1.4 to about 3.5 per cent in weight. From Dubois to Boston the change ranged from a gain of about 1.1 per cent to a loss of about 1.8 per cent. From shearing time at Dubois to time of arrival at Boston the wool lost weight, varying from 1.1 to about 5.3 per cent, the greatest portion of this loss occurring during the storage period at Dubois.

This loss of weight in storage in the generally dry climate prevailing at the U. S. Sheep Experiment Station is not surprising. However, it is surprising to find that the wool continued to lose moisture en route to Boston during 1929 and 1930. It is a recognized fact that wool shipped from the dry western range country gains moisture during storage in the Boston warehouses. After this wool was graded and piled it probably gained from 5 to 8 per cent more moisture than it contained when it arrived in Boston, although no further weights of it were taken. It is planned to determine the exact amount of this moisture change during storage at Boston this present year.

----------EAH----------

## RECENT PUBLICATIONS

"Swine Performance Record - Litter Comparison - Series II" by C. C. Culbertson and others - Iowa Experiment Station Leaflet No. 28.

"Field Peas for Fattening Pigs" by Osland and Morton - Colorado Experiment Station Bulletin No. 381.

"Swine Enterprises" a book by A. L. Anderson - published by J. B. Lippincott Co., Philadelphia, Pa.

"Judging Price Risks in Marketing Cattle" by Homer J. Henney - Kansas Experiment Station Circular No. 158.

"Beef Cattle Production in the Southeast" a booklet issued by the National Cottonseed Products Association, Dallas, Texas.

"Feeding Lambs on Pasture" by King and Harper - Purdue (Indiana) Experiment Station Bulletin No. 353.

"Sheep on Minnesota Farms" by Philip A. Anderson - Minnesota Experiment Station Special Bulletin No. 141.

"Lamb Feeding Experiments" by H. Hackedorn and others - Washington Experiment Station Bulletin No. 258.

"Length of Feeding Period and Plane of Nutrition as Factors in Lamb Feeding" by A. D. Weber and others - Nebraska Experiment Station Bulletin No. 262.

"Using Horses on the Farm" by A. L. Harvey - Minnesota Experiment Station Special Bulletin No. 145.

"Hay Requirements of City Work Horses" by Simms and Williams - Storrs (Connecticut) Experiment Station Bulletin No. 173.

"Wheat to Meat" by J. H. Shepperd - North Dakota Experiment Station Circular No. 45.

"Livestock Shipping Losses and Their Prevention" by O. O. Waggener - Agricultural Development Department, Chicago, Burlington and Quincy Railroad Co., Chicago, Ill.

"Trucking Livestock to St. Paul" by Johnson and Johnson - Minnesota Experiment Station Bulletin No. 278.

"Variations in Livestock Production Costs and Returns in Putnam County " by John F. Dowler - Ohio Experiment Station Bulletin No. 495.

"Ten-Year Animal Husbandry Program for West Virginia" by Benj. F. Creech - West Virginia Extension Service Circular No. 300.

"Breeds of Live Stock in America" by H. W. Vaughan - A text-book published by R. G. Adams and Co., Columbus, Ohio.

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